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WILDLIFE CONTRIBUTIONS TO THE NATION'S WAR PROGRAM

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America's fish and wildlife resources have made many substantial contributions to the national war program during the year that began with Pearl Harbor.

Since war broke out the Fish and Wildlife Service has streamlined its work in order to devote the major portion of time to activities directly concerned with the mobilization for war purposes of the natural resources under its protection. Included in these undertakings are specific projects, actions, and lines of activities that enable the Service to assist the Department of the Interior in making the maximum, broad contribution to the war program. The knowledge and experience gained through years of preparation, through years of study, conservation and development of our wildlife resources, are now being devoted to winning the war.

The importance of the Service's various programs in perpetuating the renewable natural resources on which national defense and morale depend is reflected in its designation as a defense agency for specific reasons that include the emergency values of the fisheries fleet, the food supply in fishes, the control of animals and rodents that destroy crops and food stores, and the Service's trained research and law-enforcement personnel.

As an agency carrying out the national purpose to restore wildlife and conserve it for prudent use, the Service was given the responsibility of guarding these resources against avoidable damage from defense activities.

Of outstanding importance, however, was the effort to make the Nation's fisheries available in the most effective way possible for meeting domestic needs and at the same time permitting exports to the allies. Mobilization of the Department's facilities for this effort

culminated with the issuance, on July 21, of an executive order by President Roosevelt appointing the Secretary of the Interior as Fishery Coordinator. Under the terms of this executive order, the Office of the Coordinator of Fisheries is responsible for the development and sustained production of aquatic food supplies essential to the conduct of the war.

War gave new twists to technology in the fisheries. It created a multitude of new problems, and increasing dependence was placed by the fishing industry upon technological data for their solution. Programs were revised to include investigations of possible new sources or suitable substitutes for fishery items lost to us by disruptions in world trade. Thus, a partial substitute for imported agar was developed; discarded empty stubby beer bottles were shown to be a desirable substitute for imported glass floats formerly used on subsurface gill nets; studies were initiated which showed that a high quality poultry feed can be prepared from dogfish and shark carcasses now discarded incident to the shark liver fishery, supplementing the domestic supply of protein concentrates now necessary.

In line with more efficient utilization of raw material used in the manufacture of fish meal and fish oil, additional information was obtained regarding the solubility of fish proteins during the reduction process. Conversion of starfish and other oyster pests into substitutes for some of the materials which may not long be available is being studied.

Abrupt demands for vitamin A, both for domestic consumption and for distribution under Lend-Lease, directed greater attention to possible new sources of raw materials. Data were obtained regarding more efficient vitamin-A recovery from existing supplies.

Increased government buying of canned fish, reducing the supply for domestic needs, focused the need for development of new products from species not previously used in canning or otherwise considered of limited utility.

Vital need for shipping space increased demand for dehydrated foods of all types for transport over-seas. Service technologists now are working out ways to dehydrate fish by more efficient methods than those in general use.

Development of more orderly marketing procedures, and methods whereby raw materials may be more efficiently used promotes conservation of the fishery resource; improves this nation's nutritional level; and gives aid to War agencies concerned with planned purchase of protein seafoods.

As war activities intensified, the drainage of manpower and vessels from the industry became more serious. In combination with military and Lend-Lease purchases, these factors reduced civilian supplies of certain fishery commodities. The market development work of the Service was

gradually reoriented to meet situations as they developed.

Special efforts were made to encourage those fisheries most susceptible to stimulation under war conditions, and to readjust fish consumption to meet new conditions of supply. Production of varieties not usually captured in large volume was encouraged. The public was shown how to make use of the heavy "runs" of Great Lakes smelt, and herring fishing was stimulated through work with producers, dealers, and consumers.

Locker plant operators were shown how they could make fish more readily available in the Midwest by establishing contacts with producers and dealers and using their refrigeration facilities for fish distribution.

To husband our fishery resources most wisely, detailed periodic summaries for the most important markets are prepared. Through these and daily releases of production and current prices, those war agencies charged with regulating our food supplies have been furnished with source, supply, and price data. Surpluses may thus be quickly checked and removed and shortages soon noted and remedied. Results of such actions as military purchase of vessels may be followed in these daily reports, and the effects gauged almost as fast as the vessels are withdrawn from the fishing fleet.

Purchasing officers and mess sergeants were placed on the daily report mailing lists in order that they might request bids for seafoods with some knowledge of market conditions; suppliers were informed concerning the Army's requirements and Federal specifications. Former Federal specifications for fresh fish were revised to meet military needs and to conform more closely to current commercials practices. Further to aid the Army and industry, a Reference Manual was prepared which contained pertinent information on the more important fish and shellfish, enabling purchasing officers to buy fishery products more wisely and economically.

The changing figures relating to yield of fishery products, craft and gear, employment of men, and production of manufactured fishery commodities provides specific, current information required by Federal war-training agencies. Members of the statistical staff labored late and often to supply current and historical fisheries data required by these agencies.

With expanding civilian and military markets for fishery products for food and industrial uses, and increased demands placed upon them by Lend-Lease commitments, the commercial fisheries have been subjected to unusual strain. To help industry now in fulfilling its obligations, statistical services were performed to assist in getting priorities, material, and Federal aid. Thus, for example, a survey was conducted to learn the exact requirements of the fishery industry so that allocations and priorities can be most efficiently determined and necessary production maintained; data were gathered upon gear in each fishery;

fuel oil requirements; vessels operated and needed in each fishery; etc. Many Federal agencies benefited by this study--the War Production Board, the Navy Department, and the Office of the Coordinator of Petroleum, for example, in work in their respective fields.

Two recent undertakings by Service investigators have proved that many hitherto unexploited offshore banks of this hemisphere will form the basis of valuable food fisheries. The first, a survey of the waters off Peru in cooperation with the Department of State, revealed the existence of rather extensive fishing areas which that country is now planning to exploit commercially. The second, in progress since spring of 1942, embraces the waters of the Caribbean Sea. Information so far collected on this survey, undertaken through the cooperation of other American republics in the area and the Government of the British West Indies, indicates that the fisheries in some localities can be materially expanded.

Each year Alaska produces nearly 7,000,000 cases of 48 one-pound cans of salmon. This highly important protein food, easily transported and capable of withstanding any climate, is an important staple of Army and Navy diet. Despite greatly curtailed operations in western Alaska, due to military operations and transportation and labor difficulties, the Alaska salmon pack of all species for the 1942 season passed the 5,000,000 case-mark. In order to insure the greatest pack possible this season, consistent with conservation requirements, Alaska fishery agents maintained constant watch over salmon runs and escapement and were able to recommend extensions of seasons of from 2 to 5 days in several districts.

The Service's Division of Alaska Fisheries works constantly to devise means of increasing the yield of fishery products, in line with conservation needs. Observations made on the fishing grounds and close studies and analyses of statistical and other material are utilized in framing regulations for promulgation by the Secretary of the Interior, fixing the time, place, method, and extent of fishing operations.

Since war was declared, the Service's fishery biological investigations have been geared to the primary purpose of increasing the available supplies of fish for wartime use. The importance of fish as a natural food resource of strategic value is apparent from the following facts: (1) As a source of animal protein of high nutritive value, fishery products rank next in volume to beef and pork; (2) Canned fish, which may be sent to any locality under the most adverse conditions, form one of the most important foodstuffs for shipment to our allies or for use by the armed services; (3) Fish meal utilized as food for poultry and livestock increases the production of eggs, milk, and meat; and (4) Oils derived from fish and fish livers are the principal source of vitamins A and D and also furnish glycerine for explosives.

Activities of fishery biologists relating to food production fall

into three major categories: (1) to increase directly the production of market fish; (2) forecast the available supply and gauge safe limits of exploitation; (3) protect present and future supplies from impairment or destruction by water pollution, mechanical installations, or the attack of natural enemies or diseases.

The need for protein foods of high nutritive value has been sharply accentuated by war conditions. With this fact in mind, the Service has sought means of increasing the yield of the fisheries wherever possible by constructive means which will insure large production, not only this year but in the critical years ahead and during the postwar reconstruction period as well.

The Service has offered a number of specific recommendations to State conservation officials and to representatives of the fishing industry. Several of these have already been put into effect. One of the most important concerned the haddock fishery of New England which annually yields some 150,000,000 pounds. Following the Service's warning last year that the continued capture and sale of baby haddock would result in great financial loss and in the eventual ruin of this fishery that ranked fifth in value in 1940, the industry voluntarily curtailed landings of baby haddock to only 13 percent of the quantity landed a year ago. The young fish spared this year will double in weight by next year, providing an immediate increase in yield.

The Service's recommendation that the size limit for the sale or capture of striped bass, a very important food fish, be increased to 16 inches, has now been adopted by 6 out of 12 Atlantic Coast States primarily interested in this fishery. This larger size limit prevents the wasteful exploitation of stock that results when the fish are caught during the earlier stages of rapid growth and will permit an increased poundage to be taken safely.

At the recommendation of the Service, sanctuary areas were established in the lower part of the Chesapeake Bay to protect blue crabs during the period from May 15 to September 1 for the purpose of building up the spawning population. Lack of a sufficient number of spawners is believed to be the principal cause of the 50 percent decline in the yield of this fishery which occurred during 1940 and 1941. Since imports of Japanese canned crab ceased when war began in the Pacific, Chesapeake Bay crabs are now the greatest source of supply. An increase in the abundance of crabs is especially to be desired because of the highly palatable and nutritious quality of the meat and also because the catch can be made in protected inshore waters.

Except in the Hudson River, the Atlantic Coast shad fishery has been overfished for many years, causing an unnecessary reduction in the Nation's food supply and bringing serious economic hardship to shad fishermen. Studies in Chesapeake Bay and in North and South Carolina have indicated that a reduced rate of shad fishing would bring about a recovery of the

populations similar to that which occurred in the Hudson. Control of the fishing rate in the Hudson River to permit an adequate number of spawners to escape has restored the yield to the highest levels in the history of the fishery. The State of Maryland has now adopted regulations which embody recommendations of the Service and it is hoped that other Atlantic Coast States may soon follow suit.

Expansion of the practice of private oyster farming is being advocated by the Service as one of the most promising methods of creating additional food for war use. Demonstration oyster farms where oyster growers may observe the application of modern scientific methods have been set up by the Service in North and South Carolina in cooperation with the States and similar projects are to be established in other areas. The farming of mussels as another means of providing additional food has been undertaken on an experimental basis. The early months of this work give promise of success.

With the entire commercial production of fish suited for canning, such as salmon, sardines, and mackerel, now set aside for governmental use, it becomes increasingly important to have means of predicting the available future supply. The studies of Alaska salmon conducted for many years by the Bureau of Fisheries and now by the Fish and Wildlife Service have provided information on which estimates of the size of the "runs" may be made. The recent establishment of a laboratory at Little Port Walter, Alaska, has placed the regulation of the pink salmon fishery of southeastern Alaska on a firmer basis than ever before. A two-way counting weir for the enumeration of the spawning runs and their progeny is included in the facilities of this laboratory. Information obtained at the weir has greatly improved the precision of forecasts as to future runs of pink salmon in all parts of southeastern Alaska. The Service's data on the condition of the populations of this and other species of salmon have been used as a basis for the Secretary of the Interior's regulations, which have been drawn with full regard to the need for additional canned products as well as to insure continuance of substantial supplies for future years. A careful watch is being kept also of the herring fishery, an important source of oils and meals, to determine how much fishing may be permitted without destroying this seriously over-fished resource.

Off the Pacific Coast of the United States the pilchard fishery provides the bulk of the pack of canned sardines, and also furnishes enormous quantities of oils and meals. The coastal States and the Fish and Wildlife Service have participated in observations of this fishery over a period of several years, so that the limits of safe exploitation of this important fishery are reasonably well known.

On the Atlantic coast our facilities have permitted only the most limited observations on the fishery for redfish, although this species has suddenly assumed great importance in the New England area. From an insignificant volume in 1933, redfish landings rose to 145 million pounds

in 1941, an increase of 70 percent over 1940. This species now ranks second only to haddock (among New England fisheries) in the volume of its production. Little is known as to the ability of the redfish to withstand this heavy drain, but it is clear that a study of the fishery and some degree of control are needed.

Practical methods for the control of the starfish and the oyster drill, principal enemies of the oyster on the Atlantic Coast, have been worked out by Service biologists and have been demonstrated to oystermen so that they may be applied on a wide scale. Surveys to determine the local abundance of both starfish and drills are made at intervals and reports are issued to the industry for the purpose of intelligently guiding efforts to reduce the numbers of these oyster predators. The importance of this program may be judged from the fact that in Long Island Sound alone starfish each year destroy oyster crops valued at an estimated $500,000.

The numerous protective activities of the Service in relation to the fisheries assume particular importance in wartime when it is especially necessary to prevent the waste or destruction of any food resources. Water pollution and the development of streams for power are the outstanding menaces to the fishery resources of inland waters. Pollution also threatens the shellfisheries in certain coastal areas. Disease in hatcheries reduces the efficiency of restocking programs for ponds, lakes, and streams, and the depredations of natural enemies greatly decrease the productiveness of the oyster fishery. All measures taken or directed by Service biologists to control such sources of food loss are, therefore, direct safeguards for the Nation's food supply.

During the past year defense production and actual war conditions magnified existing pollution problems and added new or little-known types of pollution. Wastes from paper, fiber, and pulp industries, including rayon and viscose plants, increased in volume; the need for petroleum and its derivatives opened new oil fields with attendant pollution hazards; and increased and unrestricted mining activities are adding volumes of silt and rock wastes to hitherto unpolluted waters. War also has brought great changes in the chemical industry that have resulted in new wastes, some harmless and others quite dangerous, but concerning which little is known. The mobilization of large concentrations of troops has created difficult problems of sewage disposal and camp sanitation.

With full cooperation of the United States Army, field investigators of the Service have studied pollution problems at 30 ordnance plants. With standard testing equipment installed on its laboratory trucks and in pollution laboratories at Columbia, Mo., Fort Worth, Tex., and Spearfish, S. Dak., complete analyses of the wastes are undertaken and bioassays determine the effects of the components of the wastes on fish life. As rapidly as concrete results and recommendations for pollution control can be made, they are reported to the proper authorities who are assisting the Service to preserve aquatic resources.

The Service's long-standing project for controlling predatory animals and rodents for the protection of livestock, poultry, range forage, agricultural crops, and stored food and feed supplies was reoriented for wartime effectiveness in promoting the food-for-freedom program and in safeguarding camps and material from disease-bearing, fabric-destroying, and food-contaminating rodents. This activity is being vigorously prosecuted in cooperation with States, counties, municipalities, livestock and farm organizations, and individuals because the killing of domestic livestock by predatory animals is particularly serious in time of war when wool, meat, and leather products are of such vital importance for our armed forces.

Each year predatory animals take a heavy toll of livestock and poultry, particularly in the vast territory of publicly and privately owned livestock ranges throughout the 11 Western range States, Texas, Oklahoma, and the Dakotas. This area represents the principal ranges of the larger livestock-destroying predatory animals. Likewise, this is also the area in which a high percentage of the Nation's meat, wool, and mohair is produced.

Rat and mouse destruction of grain in elevators and mills has been severe. Sanitary and rat-proofing methods for controlling these rodents have been stressed to insure lasting results. The control of rats and field rodents has not only contributed directly to conserving agricultural crops and stored food and feed supplies, but has also made itself felt in checking endemic typhus fever, bubonic plague, and other rodent-borne diseases that are transmissable to man. The Fish and Wildlife Service cooperated with the U. S. Public Health Service and State and local health departments in prosecuting rodent control for the suppression of disease. Several employees of the Service have been commissioned in the Sanitary Corps of the U. S. Army to supervise rodent control operations on military reservations for the purpose of suppressing rodent-borne diseases in those areas.

The demand for predator-control work has increased steadily because livestock and poultry growers are putting forth every effort to gain increased production because of the war. Livestock producers realize the importance of protecting their livestock and poultry against predator depredations if an increased supply of their products is to be attained. The need for wool for clothing to meet the Army estimate of 100 pounds of scoured wool for each man during his first year in service makes it a matter of grave concern and, if possible, to increase the output of domestic wool, the only supply deliverable in quantity to our mills without undergoing the hazards of marine transportation.

The requirement of 15,000,000 shearling pelts for lining aviators' coats exceeds the present supply. Lanolin, a byproduct of wool, is needed in quantity to insure the smooth operation of war machines. The increased war demand for meat and eggs has added significance to the production goals for lamb, mutton, and poultry. The wool growers of the nation have been requested by Army officials to increase their

production to the limit of forage resources. The protection of flocks and herds, on the livestock ranges of the Nation, from direct destruction by predatory wild animals is a major factor in fulfilling this requirement. The loss of sheep to predatory animals is the greatest single cause of sheep losses on the Nation's livestock ranges.

In the Western States more than 37,000,000 adult sheep and lambs graze on open ranges that are infested with coyotes and other large predators. These have been protected by predator-control operations conducted over the greater part of the range areas by the Service and its cooperators. Thus, losses of essential raw materials required in the prosecution of the war have been reduced.

In April 1942 a project for permanent rat control was inaugurated in St. Louis County, Mo., and plans were made for similar work in the City of St. Louis. A rat control project was inaugurated in Flint, Mich., and plans were drawn for other extensive rat control projects throughout the midwestern States where the problem of protecting stored grain and feed supplies is of paramount importance.

Excellent results are being accomplished under the cooperative rat control projects at New Orleans, La., Miami, Fla., and in Dade County, Fla. At New Orleans, for example, a large produce company reported that previous to rat control it sustained an annual loss of $3,000 worth of produce to rats. Since control no losses are noted. Assistance has been given also to the Army in field rodent and rat control at various army camps, air bases, and Quartermaster Storehouses.

Control of rodents and predatory animals, an important aid in wartime food production and public health work, has presented new problems due to the fact that the usual control agents--strychnine, red squill, and thallium--are cut off from foreign import. Substitute materials have been devised for certain species, and efforts continued to find others. Red squill, a most important rat poison, comes from Mediterranean countries, and imports have been stopped by the war. Experimental propagation in the United States is being developed through cooperation with the Bureau of Plant Industry. Extensive plantings of seeds and bulb cuttings have been made in different sections of the country and to date a few plants of high toxicity have been produced in California. Red squill, however, requires 4 to 5 years to mature, hence the building up of a substantial crop is a slow process.

A process for the fortification, or strengthening of low-grade squill, developed by the Service last year, is now being put to practical use in rat control work. In addition to the Service's small laboratory plant at Denver, which has been running full capacity developing fortified squill for the needs of the Service and its cooperators, a plant was established this year in New Orleans, under the technical direction of Service scientists, to supply toxic squill for rat control at this important military port.

Considerable work also has been done in testing poisonous plants and other organic compounds in order to find substitute poisons. The Service's chemical laboratory at Patuxent, which was established for nutritional work, has been converted into a laboratory for developing organic control poisons. Cooperative studies on insecticides and rodenticides have been worked out with the Bureau of Entomology and Plant Quarantine of the Department of Agriculture.

Wartime needs for furs and fur products to provide warm clothing for our armed forces in cold climates has been a major investigative activity of the Service during the past year. A Service expert was appointed as fur consultant to the War Department, and cooperative work is now being done for the War Production Board and the Quartermaster Corps. Tests with furs are under way to determine their frost-resistant qualities and their use in sleeping bags, and in certain types of clothing.

The Service's fur resources program is recognized by the War and Navy Departments as the national authority on the procurement, grading, and use of material for the protection of service men stationed in Arctic regions and operating under cold conditions.

At the request of various war agencies, comparisons are being made of furs and fabrics when used alone or in combination for war uses under different weather conditions in cooperation with the Bureaus of Home Economics and Animal Industry in the United States Department of Agriculture. The objective has been to conserve fur and extend its use for protection against cold, to determine the value of fur fibers as replacements for other fibers, and to develop the most effective use of byproducts which have hitherto been wasted. Additional knowledge on insulation value, resistance to abrasion, tearing strength, durability, and weight is required to develop a wider use of furs.

In order to cope with the shortage of animal fibers and animal-fiber products, it is necessary to make use of all animal fibers available and to allocate each type of fiber to the purpose for which it is best adapted. Animal fibers, because of their inherent warmth-retaining qualities, are indispensable in cold climates. Work is now in progress with the Bureau of Animal Industry and the defense agencies, including the Salvage Branch of the War Production Board, to stop waste in the fur and textile industries.

In the fur farming field, wartime conditions have stressed the need for raw meat substitutes in feeding fur animals. This has been accomplished through the use of fish meal, beef meal, and tripe for animal rations.

The use of rabbit fur in the felt and hatters trade has created a national problem with usual sources of supply cut off from Europe and Australia. Sources of domestic fur are being developed by the Service and encouragement is given to the trapping and utilization of wild jack-rabbit pelts in the West where the taking of millions of these animals would further protect farm crops.

In cooperation with the Food-For-Victory campaign, the Service has exerted every effort to step up domestic rabbit production to furnish more meat and fur. Rabbit meat is quick to produce and can be used to supplement the family meat supply. Work along this line is in progress at the Service's rabbit experiment station at Fontana, Calif. Cooperation is being given to Federal and State penal institutions that are desirous of establishing rabbitries for rehabilitation and employment of the inmates as well as to furnish food for the mess. Officials of the War Relocation Authority have conferred with Service officials regarding the introduction of meat and wool producing rabbits into camps where the Japanese are interned.

Since March 1942, by request of the Bureau of Yards and Docks of the Navy Department, the field personnel of the Division of Land Acquisition has been evaluating and surveying lands to be purchased for war purposes.

Alignment of the Service's fish hatchery functions with the war has required special emphasis on two phases of this work. Pan and game fish produced in farm ponds throughout the country are recognized as a food resource of considerable magnitude. The potential volume of this food supply cannot be accurately measured, but estimates of the Soil Conservation Service quoted a potential yield of 35,000,000 pounds in Texas alone, with the estimated harvest for the country as a whole exceeding 100,000,000 pounds of fish.

With proper management farm ponds may produce from 200 to 300 pounds of edible fish per acre per year. This compares favorably with other agricultural production and is especially significant in view of the fact that the lands producing fish are frequently submarginal and of little or no value for other uses.

Since hatcheries producing warm-water fish are the most vital factor in putting farm ponds on a productive basis, the Service has embarked on a policy of giving preferential status to farm pond requirements.

The farm pond program has a direct relation to the war program since production of usable food fish is achieved within one year of the initial stocking. During this year hundreds of farm ponds are yielding food and recreation to their owners as a result of stocking accomplished with the 1941 crop of fish distributed from Service hatcheries.

The Fish and Wildlife Service has scattered over the United States and Alaska a well organized corps of thoroughly trained men engaged in law-enforcement work who are efficient in making criminal investigations, apprehending violators, and prosecuting cases in Federal and State courts. Many of these employees are located in strategic places where they may be of valuable service in making investigations in connection with espionage and sabotage; also they have the training and equipment necessary to carry on reconnaissance and intelligence work for military

services. Considerable assistance has been rendered along these lines to the Army, Navy, and Federal Bureau of Investigation. In Alaska the Service is able to render such assistance in counteracting fifth-column operations due to the fact that the Alaska game and fishery laws have special provisions affecting aliens.

The invasion of the Aleutian Islands by the Japanese has greatly complicated the problems of conservation and protection of the wildlife resources of Alaska. It is all-important that the defense of our country must have first consideration, but even in time of war this outstanding wildlife resource in the Territory cannot be neglected. The establishment of military and naval bases in the Territory and the consequent curtailment of normal law enforcement patrol activities has seriously handicapped the Alaska Game Commission in its efforts to afford adequate protection to the game and fur resources. In addition to the armed forces now stationed in Alaska, many of whom are hunters, the civilian population has increased enormously. The effects of this increased population, particularly with respect to game animals, are obvious.

As means of restricting the "take" of game to prevent undue depletion of this important economic asset, seasons and bag limits have been reduced on all game animals. Regulations approved for the 1942-43 seasons under the Alaska Game Law prohibit the taking of mountain sheep anywhere in the Territory, reduce the bag limits on deer and caribou, and shorten the seasons on moose.

The Fish and Wildlife Service has the responsibility for fire protection on 13 million acres in national wildlife refuges, some of which lie within or are adjacent to important State and National forests, Indian reservations, and private timber holdings. The existing and potential value of these lands has been greatly increased as a result of war needs, and these lands must receive adequate protection from fires resulting from sabotage or bombing raids.

The sum of $106,970.61 was deposited in the United States Treasury during the fiscal year 1942 as the result of sale of surplus products from the Service's national wildlife refuges. As provided by law, 25 percent of this money has been paid to the counties in which the refuges are located.

One million acres of wildlife refuge lands have been temporarily released to the War and Navy Departments for military purposes since the war began. But, by giving due regard to the needs of conservation, the selection of these areas was so made as to minimize wildlife losses.

The wildlife resources of the Nation are exceedingly valuable, and their conservation and perpetuation has been a matter of deep concern not only to those who are interested in the annual sport and recreation of game hunting, but also to farmers, horticulturists, and others who are

economically benefited through the food habits of birds and other wildlife that feed on rodents, insects, and noxious weed seeds. The harvest of wildlife is conservatively estimated at 135,000,000 pounds of meat annually. With the war and the consequent unprecedented drain upon our supply of domestic meats, wild meats have assumed considerable importance as an added source for consumption by our civil population. According to present information, it appears that meat will be rationed at a rate of 2½ pounds per week for civilians. In that event the 135,000,000 pounds of meat harvested in the wild would feed 6,000,000 persons for 63 days each year. In addition, more effective harvesting measures will permit a greatly increased production of wild meats without impairing the basic seed stock. Wildlife technicians now employed on Pittman-Robertson projects in 46 States are competent to advise State administrators on harvesting problems and to assemble added information as required to insure the maximum returns without impairment of the basic resources.

Surveys and investigations have been conducted also to determine methods of improving the environment for fur animals, to find ways to trap and prepare the skins for market so that greater utilization will be made of the fur resources to fit in with war needs.

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In wartime as well as in peace the Nation's natural resources must be safeguarded, and to a great extent the Fish and Wildlife Service of the United States Department of the Interior is one of those agencies upon which the responsibility rests to see that no avoidable danger is suffered on the home front. Its efforts are being exerted to make every possible contribution to the war but at the same time to provide security for the fish and wildlife resources during the struggle and for the peace to come--through every means and every effort that cannot be exerted directly in fighting.

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